Type: Invited Presentation

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Session: Towards Cholera Elimination: A New Era for an Integrated Strategy
Date: Saturday, April 5, 2014
Time: 10:15-12:15
Room: Room Roof Terrace

Planning for the elimination of cholera: An example of integrated national plan

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In the early nineteenth century, the first recorded cholera outbreaks occurred in South-East Asia, with the first six pandemics and the seventh ongoing cholera pandemic.

After the major outbreaks of the mid-nineteenth century, cholera was completely eliminated in Europe.

In Africa however significant cholera outbreaks have only been reported since 1970, and if we consider the cases reported by WHO, it one of the most affected regions of the world.

Cholera remains one of the most important public health issues in the Democratic Republic of Congo (DRC). Since 1977, a succession of outbreaks has occurred, seemingly without spatial or temporal logic. The change of the 1970-1990's epidemic profile to the current endemic profile is in contrast with the dispersion, with no clear logic and weak operational strategies.

An extensive research project has been conducted since 2005 in order to better understand the spatial and temporal dynamics of cholera in the DRC and suggest adjustments to operational strategies. The objective of this study has been to emphasize multidisciplinary approaches and to analyze the series of cholera cases over the long-term.

The study showed evidence of the persistence and recurrence of cholera epidemics during the dry season around the small lakes areas. These cholera 'sanctuaries areas' were identified through the detection of the seasonality of epidemics around the lake areas. The evidence suggests that targeting the 'sanctuaries areas' located in the African Great Lake Region should be a priority in the cholera elimination plan in the DRC.

Based on the results and the recommendations of this work, the DRC has adopted the 2013-2017 Multisectorial Plan to Eliminate Cholera as a public health issue.

Using epidemiological monitoring combined with an understanding of the dynamics of the disease to complete the adjustment of operational approaches should motivate other countries in Africa where cholera remains a real public health issue.

The elimination of cholera in Africa is possible. But in order for this to occur, cholera should be moved out of the perpetual emergency reaction cycle. Local actors need to be empowered and the international community has to agree to join and support that objective.

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MERS-COV

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The emergence of a novel human coronavirus, first reported from Saudi Arabia in September 2012, recently renamed the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) has created global alarm because it is the causative agent of a severe and frequently fatal acute respiratory illness (SARI) resembling the illness caused by severe acute respiratory syndrome (SARS) coronavirus (SARS-CoV). All cases either occurred in the Middle East or had direct links to a primary case infected in the Middle East. MERS-CoV can cause sporadic infection, infection among families, and, of particular concern, infection among healthcare workers. Most patients who were initially infected with MERS-CoV had underlying comorbid medical conditions and laboratory testing showed that most of these cases had raised concentrations of lactate dehydrogenase and aspartate aminotransferase associated with thrombocytopenia and lymphopenia.The case fatality rate (CFR) in patients infected with MERS-CoV is high—estimated at 43% in 176 patients reported so far by World Health Organization (WHO). This rate is higher than that of SARS—estimated at 10%, and is strongly age- and sex-dependent. Although the source of virus in patients with sporadic infection remains unknown, although bats and camels have been implicated. Clear evidence of limited human-to-human transmission of MERS-CoV has now been documented in several case clusters, including particularly family members and patients in health care facilities, but all such clusters have, at least thus far, been limited in extent. However, a real concern persists that the virus will adapt to inter-human transmission and switch from an aborted epidemic to a pandemic similar to the SARS-CoV epidemic in 2003–2004. MERS-CoV is transmitted through droplets and contact. In the case of invasive respiratory procedures, MERS-CoV is transmitted through airborne route. Early diagnosis and strict implementation of the core components for infection prevention and control programs are crucial for preventing epidemic amplification.

The emergence of respiratory viruses that cause significant disease in human beings is a major risk to the global economy and the health of the human population. The potential effect of newly discovered viruses calls for a better understanding of the human–animal interface, the development of rapid diagnostic tests, and effective antiviral and immunomodulatory therapies. In the absence of an effective vaccine and a specific antiviral treatment, there is an urgent need to rapidly identify potential therapeutics.

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